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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR THE PRODUCTION OF ALUMINIUM HYDROXIDE

(57) Abstract: Gibbsite type aluminium hydroxides are obtained by seeding a Bayer liquor with bayerite crystals. The gibbsite type aluminium hydroxides show excellent properties as fire retardant fillers in synthetic resins.

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# INTERNATIONAL SEARCH REPORT

Internat: Application No

PCT/EP 00/05980

**A. CLASSIFICATION OF SUBJECT MATTER**

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7      C01F7/14      C01F7/02      C08K3/22      C09K21/02

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7      C01F      C08K      C09K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, CHEM ABS Data

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	A.R. GERSON ET AL.: "Influence of solution constituents, solution conditioning and seeding on the crystalline phase of aluminium hydroxide using in situ X-ray diffraction" JOURNAL OF CRYSTAL GROWTH, vol. 160, no. 3,4, 1996, pages 346-354, XP002151672	1,9
Y	page 348; table 2 <div style="text-align: center;"> <div>---</div> <div>-/--</div> </div>	10,11

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DATABASE WPI Section Ch, Week 199737 Derwent Publications Ltd., London, GB; Class A14, AN 1997-399664 XP002151673 & JP 09 176367 A (SUMITOMO CHEM CO LTD), 8 July 1997 (1997-07-08)	10,11
A	abstract ---	7,8
X	SATPATHY B K ET AL: "DEVELOPMENT OF SPECIAL GRADE HYDRATE AND ALUMINA" , PROCEEDINGS OF THE TMS ANNUAL MEETING,US,WARRENDALE, TMS, VOL. MEETING 123, PAGE(S) 147-153 XP000625565 ISBN: 0-87339-264-7 table 3 ---	7,8
X	US 4 847 064 A (PEARSON ALAN) 11 July 1989 (1989-07-11) column 4, line 23 - line 25; claims ---	1
A	EP 0 589 432 A (MARTINSWERK G M B H FUER CHEMI) 30 March 1994 (1994-03-30) -----	

# INTERNATIONAL SEARCH REPORT

Internati Application No  
PCT/EP 00/05980

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 9176367	A	08-07-1997	NONE		
-----					
US 4847064	A	11-07-1989	WO	9015777 A	27-12-1990
			US	5149520 A	22-09-1992
			US	5225229 A	06-07-1993
-----					
EP 0589432	A	30-03-1994	DE	4231874 A	24-03-1994
			CA	2105956 A	24-03-1994
			DE	59300505 D	28-09-1995
			ES	2075750 T	01-10-1995
			HU	66730 A, B	28-12-1994
			JP	6199519 A	19-07-1994
			SK	102093 A	06-04-1994
			US	5492542 A	20-02-1996
			US	5500480 A	19-03-1996
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